Assignments

• There are three focused lab assignments:
  • PKI lab plus Certificate (10 points)
  • Client side application security (10 points)
  • Server side application security (10 points)
• Quizzes on readings: up to 6 unannounced quizzes will be administered over the term – each worth 5 points for up to 30 points toward your grade – (Alternative will be lab development)
• Final Project of your choosing (30 points)
• The instructor reserves 10 points to be awarded based on contributions and efforts

Final Project Ideas

• Security Implementation Plans
  • Physical Security
  • Network Security
  • Data Security
• Laboratory Experiments
  • Digital Certificates
  • Cross Browser Vulnerabilities
  • Intrusion detection
  • Honey pot demonstrations
Week 1 Assignments

• Read Garfinkle, Chapters 1-4
  • Load network analysis software e.g. wireshark, on your machine to follow Garfinkle’s analysis
• Do the PKI lab – a build a secure keyring
  • Set up Thunderbird for PGP and Enigmail – you may use other mailers at your own risk
  • Build a set of trusted keys on your client based on signed certificates
  • Include a headshot of yourself with your published public key.
• Provide corrections/extensions to the PKI lab (extensions will be worth 5 additional points – a free quiz buyout.)

Week 2 Assignments

• Research security requirements related to educational and medical sites
  • FERPA
  • HIPPA
  • IRB
• Describe a set of operational tools that might be built to make a website more secure:
  • Invited token based account setup
  • Captcha like tool to assure human access
  • Self contained secure login system
  • Password strength and memorability model
  • Simple intrusion detection system
  • DBMS encryption of Passwords and other sensitive information
  • Java to JavaScript encryption over sockets

Week 3 Assignments

• Read Chapters 5-7 of Garfinkle
• Develop Certificates
  • Research and implement certificates for SSH and SFTP
  • Find one recent article on integration of certificates
• Review current state of webmaster
Week 4 Assignments

- Lecture
- Cryptography
- Reread Chapter 7 of Garfinkle
- Begin reading standards for securing web servers

Week 5 Assignments

- Lecture
- SSL
- PKI
- Read Chapters 8-10 of Garfinkle for next week
- Do SSL lab
  - Install open ssl
  - Generate a CA certificate
  - Generate a server certificate
  - Generate a client certificate

Week 6 Assignments